

**REFERENCES:**

Clean Water Act <http://epw.senate.gov/water.pdf>

Clean Water Act, Section 404 <http://www.epa.gov/owow/wetlands/regs/sec404.html>

Text of Section 404(b)(1) <http://www.epa.gov/owow/wetlands/pdf/40cfrPart230.pdf>

Corps Regulatory Materials [http://www.usace.army.mil/CECW/Pages/reg\\_materials.aspx](http://www.usace.army.mil/CECW/Pages/reg_materials.aspx)

NEPA Statutory & Regulatory Materials <http://nepa.gov/nepa/nepanet.htm>

**GENERAL:**

"Except in compliance with this section and sections ... 1344 of this title, the discharge of any pollutant by any person shall be unlawful." (CWA 301)

"The Secretary may issue permits, after notice and opportunity for public hearings, for the discharge of dredged or fill material into the navigable waters at specified disposal sites." (CWA 404(a))

"Fundamental to these Guidelines is the precept that dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern." (40 CFR 230.1(c))

**LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE (LEDPA):**

"[N]o discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." (40 CFR 230.10(a)).

**AVOIDANCE OF IMPACTS / MINIMIZATION OF IMPACTS:**

"[N]o discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." (40 CFR 230.10(a)).

"For the purposes of this requirement, practicable alternatives include, but are not limited to: (i) Activities which do not involve a discharge of dredged or fill material into a water of the United States." (40 CFR 230.10(a)(1)).

"Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem. Subpart H identifies such possible steps." (40 CFR 230.10(d)).

"The district engineer will issue an individual Section 404 permit only upon a determination that the proposed discharge complies with applicable provisions of 40 CFR part 230, including those which require the permit applicant to take all appropriate and practicable steps to avoid and minimize adverse impacts to waters of the United States." (33 CFR 332.1(c)).

*See also* 40 CFR 230.70-.77 (Subpart H) (Actions to Minimize Adverse Effects).

#### **WATER QUALITY / SIGNIFICANT DEGRADATION:**

"In order to carry out the objective of this chapter there shall be achieved -- (C) ... any more stringent limitation, including those necessary to meet water quality standards ..." (CWA 301(b)(1)(C))

"No discharge of dredged or fill material shall be permitted if it: (1) Causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard" (40 CFR 230.10(b)(1))

"[N]o discharge shall be permitted which will cause or contribute to significant degradation of the waters of the United States, ... [including] (1) Significantly adverse effects of the discharge of pollutants on human health or welfare, including but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife, and special aquatic sites. (2) Significantly adverse effects of the discharge of pollutants on life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and spread of pollutants or their byproducts outside of the disposal site through biological, physical, and chemical processes; (3) Significantly adverse effects of the discharge of pollutants on aquatic ecosystem diversity, productivity, and stability...." (40 CFR 230.10(c))

*See also* 40 CFR 230.31 (effect on fish, crustaceans, mollusks, and other aquatic organisms in the food web), 40 CFR 230.61(b)(3) (Chemical, Biological and Physical Evaluation and Testing -- effects on benthos), 40 CFR 230.22 (suitability of water bodies for populations of aquatic organisms). *See also* 33 CFR 320.4(d)

#### **404(b)(1) / CUMULATIVE IMPACTS:**

"Fundamental to these Guidelines is the precept that dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern." (40 CFR 230.1(c)).

*"Determination of cumulative effects on the aquatic ecosystem.* (1) Cumulative impacts are the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material. Although the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems. (2) Cumulative effects

attributable to the discharge of dredged or fill material in waters of the United States should be predicted to the extent reasonable and practical. ... This information shall be documented and considered during the decision-making processes ...." (40 CFR 230.11(g))

### **NATIONAL ENVIRONMENTAL POLICY ACT (NEPA):**

"[A]ll agencies of the Federal Government shall (A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and decisionmaking which may have an impact on man's environment; ... (C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement ...on -- (i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented, (iii) alternatives to the proposed action, (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented." (42 USC 4332(2)).

"The Administrator shall review and comment in writing on the environmental impact of any matter ... contained in any ... (2) newly authorized Federal projects for construction and any major Federal agency action (other than a project for construction) to which section 4332(2)(C) of this title applies." (Clean Air Act 309(a))

See also 40 CFR 230.32 (Other wildlife) 33 CFR 320.4(c) (Fish and wildlife)

### **NEPA / CUMULATIVE IMPACTS:**

"*Cumulative impact* is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (40 CFR 1508.7)

### **NEPA / ALTERNATIVES ANALYSIS:**

"[A]ll agencies of the Federal Government shall (A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and decisionmaking which may have an impact on man's environment; ... (C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement ...on -- ... (iii) alternatives to the proposed action ..." (40 U.S.C. § 4332(2))

"Agencies shall adopt procedures (§1507.3) to ensure that decisions are made in accordance with the policies and purposes of the Act. Such procedures shall include but not be limited to: ... (e) Requiring that the alternatives considered by the decisionmaker are encompassed by the range of alternatives discussed in the relevant environmental documents and that the decisionmaker

consider the alternatives described in the environmental impact statement. If another decision document accompanies the relevant environmental documents to the decisionmaker, agencies are encouraged to make available to the public before the decision is made any part of that document that relates to the comparison of alternatives.” 40 C.F.R. 1505.1(e).

### **COMPENSATORY MITIGATION:**

*Applicable to applications submitted prior to June 9, 2008*

Memorandum of Agreement Between The Department of the Army and The Environmental Protection Agency Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines (Feb. 6, 1990)

*Applicable only to applications submitted after June 9, 2008*

“ (a) *General considerations.* (1) The fundamental objective of compensatory mitigation is to offset environmental losses resulting from unavoidable impacts to waters of the United States authorized by DA permits. The district engineer must determine the compensatory mitigation to be required in a DA permit, based on what is practicable and capable of compensating for the aquatic resource functions that will be lost as a result of the permitted activity. When evaluating compensatory mitigation options, the district engineer will consider what would be environmentally preferable. In making this determination, the district engineer must assess the likelihood for ecological success and sustainability, the location of the compensation site relative to the impact site and their significance within the watershed, and the costs of the compensatory mitigation project. In many cases, the environmentally preferable compensatory mitigation may be provided through mitigation banks or in-lieu fee programs because they usually involve consolidating compensatory mitigation projects where ecologically appropriate, consolidating resources, providing financial planning and scientific expertise (which often is not practical for permittee-responsible compensatory mitigation projects), reducing temporal losses of functions, and reducing uncertainty over project success. Compensatory mitigation requirements must be commensurate with the amount and type of impact that is associated with a particular DA permit. Permit applicants are responsible for proposing an appropriate compensatory mitigation option to offset unavoidable impacts.” 33 CFR 332.3(a)

*See generally 33 CFR Part 332*

**Indicators:**

Environmental Condition -- **NEPA, 404(b)(1)/CI, NEPA/CI, WQ/SIGNIFICANT DEGRADATION**

Most Disturbed Areas

Least Disturbed Areas -- **NEPA, 404(b)(1)/CI, NEPA/CI, WQ/SIGNIFICANT DEGRADATION**

Streams-MD

Streams - LD -- **NEPA, 404(b)(1)/CI, NEPA/CI, WQ/SIGNIFICANT DEGRADATION**

CONDUCTIVITY-MD

CONDUCTIVITY - LD -- **WQ/SIGNIFICANT DEGRADATION, 404(b)(1)/CI, NEPA/CI**

IBI-MD

IBI - LD -- **WQ/SIGNIFICANT DEGRADATION, 404(b)(1)/CI, NEPA/CI**

Other Water Qualities –MD

Other Water Qualities - LD -- **404(b)(1)/CI, NEPA/CI, WQ/SIGNIFICANT DEGRADATION**

HQHV-MD

HQHV-LD -- **404(b)(1)/CI, NEPA/CI, WQ/SIGNIFICANT DEGRADATION**

303D-MD

303D-LD -- **404(b)(1)/CI, NEPA/CI, WQ/SIGNIFICANT DEGRADATION**

NPDES\_OUTFALLS-MD

NPDES\_OUTFALLS-LD -- **404(b)(1)/CI, NEPA/CI, WQ/SIGNIFICANT DEGRADATION**

Watershed Land Cover -MD

Watershed Land Cover - LD **NEPA, 404(b)(1)/CI, NEPA/CI, WQ/SIGNIFICANT DEGRADATION**

Forest-MD

Forest - LD -- **NEPA, NEPA/CI, WQ/SIGNIFICANT DEGRADATION \***

(\*Presence or absence of forest canopy has significant affect on water quality. For example, forest structure captures and slows

**precipitation and runoff and thus has an effect on water circulation and fluctuation (see 40 CFR 230.11(b), 230.22, 230.23, 230.24), siltation, and scouring, which in turn may affect benthos habitat. Presence or absence of canopy also may affect water temperature).**

**CHG-FORPCT-MD**

**CHG-FORPCT-LD -- NEPA, NEPA/CI, WQ/SIGNIFICANT DEGRADATION\***

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**INT250-MD**

**INT250-LD -- NEPA, NEPA/CI, WQ/SIGNIFICANT DEGRADATION \***

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**FOR\_PCT-MD**

**FOR\_PCT-LD -- NEPA, NEPA/CI, WQ/SIGNIFICANT DEGRADATION \***

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**WETPCT-MD**

**WETPCT - LD -- 404(b)(1)/CI, NEPA/CI**

**DISTURBED\_LANDS-MD**

**DISTURBED\_LANDS - LD -- 404(b)(1)/CI, NEPA/CI**

**Species-MD**

**Species - LD -- 40 CFR 230.10(b)(3); 40 CFR 230.30, 40 CFR 230.32**

**TE-SPECIES-MD**

**TE-SPECIES-LD**

**CRIT\_HAB-MD**

**CRIT-HAB-LD**

RARE\_STATE-MD  
RARE\_STATE-LD -- **40 CFR 230.10(b)(3); 40 CFR 230.30; 40 CFR 230.32**

Mine Impacts -- **LEDPA, AVOID/MINIMIZE, WQ/SIGNIFICANT DEGRADATION, NEPA, NEPA/ALTERNATIVES ANALYSIS**

PEOPLE -- **NEPA, 40 CFR Subpart F (Potential Effects on Human Use Characteristics)**

Mine Footprint **LEDPA, AVOID/MINIMIZE, NEPA/ALTERNATIVES ANALYSIS**

Proposed Mine -- **NEPA, LEDPA, AVOID/MINIMIZE, 404(b)(1)/CI, NEPA/CI, NEPA/ALTERNATIVES ANALYSIS**

COAL\_REFUSE\_DISPOSAL\_AREA -- **LEDPA, AVOID/MINIMIZE, NEPA ALTERNATIVES ANALYSIS**

Mine Site -- **NEPA, LEDPA, AVOID/MINIMIZE, NEPA/ALTERNATIVES ANALYSIS**

Surface Area Disturbance - **NEPA, LEDPA, AVOID/MINIMIZE**

SAD\_AREA -- **NEPA, LEDPA, AVOID/MINIMIZE**

SAD\_TYPE -- **NEPA, LEDPA, AVOID/MINIMIZE**

Quality of Design -- **NEPA, LEDPA, AVOID/MINIMIZE, NEPA/ALTERNATIVES ANALYSIS**

Efficiency -- **LEDPA, AVOID/MINIMIZE, NEPA/ALTERNATIVES ANALYSIS**

VF\_EFF -- **LEDPA, AVOID/MINIMIZE, NEPA/ALTERNATIVES ANALYSIS**

MINING\_EFF -- **LEDPA, AVOID/MINIMIZE, NEPA/ALTERNATIVES ANALYSIS**

EXCESS\_SPOIL\_PCT -- **LEDPA, AVOID/MINIMIZE, NEPA/ALTERNATIVES ANALYSIS**

**EXCESS\_SPOIL\_EFF -- LEDPA,  
AVOID/MINIMIZE, NEPA/ALTERNATIVES  
ANALYSIS**

**AOC\_80\_20\_VARIANCE -- LEDPA,  
AVOID/MINIMIZE, NEPA/ALTERNATIVES  
ANALYSIS**

**Stream Loss -- NEPA, LEDPA, AVOID/MINIMIZE,  
NEPA/ALTERNATIVES ANALYSIS**

**Streams -- NEPA, LEDPA, AVOID/MINIMIZE,  
NEPA/ALTERNATIVES ANALYSIS**

**Perennial -- NEPA, LEDPA, AVOID/MINIMIZE,  
NEPA/ALTERNATIVES ANALYSIS**

**PERM\_P  
TEMP\_P -- NEPA, LEDPA,  
AVOID/MINIMIZE,  
NEPA/ALTERNATIVES ANALYSIS**

**Intermittent -- NEPA, LEDPA,  
AVOID/MINIMIZE, NEPA/ALTERNATIVES  
ANALYSIS**

**PERM\_I  
TEMP\_I -- NEPA, LEDPA,  
AVOID/MINIMIZE,  
NEPA/ALTERNATIVES ANALYSIS**

**Ephemeral -- NEPA, LEDPA,  
AVOID/MINIMIZE, NEPA/ALTERNATIVES  
ANALYSIS**

**PERM\_E  
TEMP\_E -- NEPA, LEDPA,  
AVOID/MINIMIZE, NEPA/ALTERNATIVES  
ANALYSIS**

**VF\_DRAIN -- 301/404, NEPA, LEDPA, AVOID/MINIMIZE**

**Post Mine Downstream Aquatic Impact -- WQ/SIGNIFICANT  
DEGRADATION, LEDPA**

**PMI\_LOW**



PMI\_MED  
PMI\_HIGH -- **WQ/SIGNIFICANT DEGRADATION,**  
**LEDPA**

WETLAND\_LOSS -- **LEDPA, AVOID/MINIMIZE, NEPA, *See also* 40**  
**CFR 230.41**

ADD\_ADD\_MINES -- **404(b)(1)/CI, NEPA/CI**

Additional Proposed Mines -- **404(b)(1)/CI, NEPA/CI**

ADD\_SAD\_AREA -- **404(b)(1)/CI, NEPA/CI**

Addl Stream Loss -- **404(b)(1)/CI, NEPA/CI**

Addl Streams -- **404(b)(1)/CI, NEPA/CI**

Addl Perennial -- **404(b)(1)/CI, NEPA/CI**

ADD\_PERM\_P  
ADD\_TEMP\_P -- **404(b)(1)/CI, NEPA/CI**

Addl Intermittent -- **404(b)(1)/CI, NEPA/CI**

ADD\_PERM\_I  
ADD\_TEMP\_I -- **404(b)(1)/CI, NEPA/CI**

Addl Ephemeral -- **404(b)(1)/CI, NEPA/CI**

ADD\_PERM\_E  
ADD\_TEMP\_E -- **404(b)(1)/CI, NEPA/CI**

ADD\_VF\_DRAIN -- **404(b)(1)/CI, NEPA/CI**

ADD\_WETLAND\_LOSS -- **404(b)(1)/CI, NEPA/CI**

Mine Mitigation -- **COMPENSATORY MITIGATION, NEPA**

STRM\_RATIO -- **COMPENSATORY MITIGATION, NEPA**

WETL\_RATIO -- **COMPENSATORY MITIGATION, NEPA**